


<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/657,605	NGUYEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
James Cho	2819		

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 09-08-2003.
2. ☒ The allowed claim(s) is/are 1-32.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 11-29-04.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>11-29-04</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>9-8-03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                             | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|  | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Arthur Vehiel on November 29, 2004.

The application has been amended as follows:

#### **IN THE SPECIFICATION:**

In paragraph [0007], "drive" on line 9 has been deleted and replaced by --drift--;

In paragraph [0020], "an driver" on line 1 has been deleted and replaced by --a driver--;

In paragraph [0023], "connect" on line 5 has been deleted and replaced by --connects--;

In paragraph [0024], "175" on line 6 has been deleted and replaced by --175--;

In paragraph [0033], "Vr1" on line 4 has been deleted and replaced by --Vr2--;

In paragraph [0040], ", die" on line 14 has been deleted and replaced by --and die--; and

In paragraph [0045], "are which" on line 4 has been deleted and replaced by --of which are--, and "very" on line 11 has been deleted and replaced by --vary--.

#### **IN THE CLAIMS:**

In claim 1, "a second reference-resistor" on line 12 has been deleted and replaced by --a second ODT-resistor--;

In claim 2, "second ODT" on line 7 has been deleted and replaced by --second-ODT--;

In claim 17, each instance of "resister" on line 2 and 13 has been deleted and replaced by --resistor-- respectively, "ODT resistor" on line 21 has been deleted and replaced by --ODT-resistor--;

In claim 18, "ODT resistor" on line 3 has been deleted and replaced by --ODT-resistor--; and

In claim 19, "of claim 1" on line 19 has been deleted and replaced by --of claim 17--.

### ***Drawings***

The proposed drawing corrections, amending Figures 4, 6 and 7; in Fig. 4, the reference number "000" in RX420 changed to --185-- and lines ODT<8:0> connected to the lower two blocks 420 as they do to the uppermost block 420; and in Fig. 6 and 7 each instance of the symbol "◆" changed to --Ω-- filed on 11/29/2004 have been approved. Replacement drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

### **INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

#### **Replacement Drawing Sheets**

Art Unit: 2819

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment. Any replacement drawing sheet must be identified in the top margin as "Replacement Sheet" (37 CFR 1.121(d)) and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin.

### **Annotated Drawing Sheets**

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheets must be clearly labeled as "Annotated Marked-up Drawings" and accompany the replacement sheets.

### **Timing of Corrections**

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

### ***Allowable Subject Matter***

Claims 1-32 are allowable over the prior art of record.

The following is an examiner's statement of reasons for allowance: Although Ikeoku et al. (US PAT No. 6,734,702) teaches an impedance calibration circuit, one of

Art Unit: 2819

ordinary skill in the art would not have been motivated to modify the teaching of Ikeoku et al. to further includes, among other things, the specific of a multiplexer having a first multiplexer input terminal coupled to the second reference voltage node and a second multiplexer input terminal coupled to the second ODT-resistor terminal, and a comparator having a first comparator input terminal coupled to the second reference-resistor terminal of a reference resistor, a second comparator input terminal coupled to the multiplexer output terminal as recited in claim 1, the specific methods of drawing an ODT current proportional to the reference current through the ODT resistor where the ODT resistor receives a second reference voltage on the first ODT-resistor terminal and provides an ODT-resistor voltage on the second ODT-resistor terminal, comparing the reference-resistor voltage with the ODT-resistor voltage to produce a current-correction signal, and adjusting the ODT current in response to the current-correction signal as recited in claim 17, the specific of a termination element having a termination-element terminal and a ODT-calibration port receiving an ODT-calibration signal and an ODT control system having a resistance-calibration port coupled to the ODT-calibration port, and a current-calibration port coupled to the driver-current control port as recited in claim 23, and the specifics of a second resistive portion coupled in parallel with the first resistive portion between the reference-voltage node and the transmission line where the second resistive portion exhibits at least three levels of series resistance as recited in claim 26.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany

Art Unit: 2819

the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jang et al. (US PAT No. 6,762,620) discloses a system and method allowing multiple modes of termination.

Esch, Jr. et al. (US PAT No. 6,064,224) discloses a circuit for matching the impedance of a first array of transistors to an external resistor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cho whose telephone number is 571-272-1802. The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

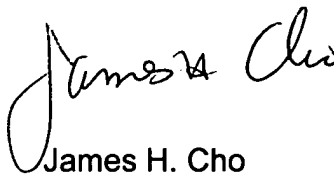
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/657,605

Page 7

Art Unit: 2819

A handwritten signature in black ink, appearing to read "James H. Cho". The signature is written in a cursive, flowing style with a large initial "J".

James H. Cho  
Primary Examiner  
Art Unit 2819

Date: 11-29-2004